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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,113

10/21/2004

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EXAMINER

CHACKO DAVIS, DABORAH

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/512,113	Applicant(s) BHANGALE ET AL.	
	Examiner DABORAH CHACKO DAVIS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 15, contains the trademark/trade names "Asahi Chemicals SunfortTM" and DuPonts RistonTM". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the dry film resists and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

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(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6,10-11,13-14,16-19,26-30,32, are rejected under 35

U.S.C. 102(e) as being anticipated by U. S. Patent Application Publication No.

2003/0034525 (French et al., hereinafter referred to as French).

French, in the abstract, in paragraph nos. [0021], [0022], [0023], [0024], [0025], [0026], [0027], [0029], [0030], [0031], [0032], [0033], [0034], [0065], [0067], [0068], [0081], [0082], and [0083], discloses an electroless deposition method of selectively depositing a metal layer on an ITO surface b(selected portions), and a product formed by forming a transparent conductor layer such as ITO, on a substrate surface, forming a photoresist layer (photoresist is a polymer, a dry film resist) on the ITO layer and patterning the photoresist to form a resist pattern (a resist pattern has a mask portion of the resist and an aperture portion, a resist pattern has many apertures, and many mask portions) on the ITO layer resulting in exposed portions of the ITO layer, exposing the ITO with a patterned resist mask to a plating solution (colloidal suspension) to such that the ions in the solution adhere to the exposed portions of the ITO layer (electroless plating), and not the resist mask pattern, resulting in the formation of a metal layer in the exposed selected portions (claims 1-3, 11, 13-14, and 32). French, in [0032], [0033], [0034], and [0076], discloses that the plating solution contains catalytic metal such as copper, or Mo or Palladium (claims 4, 6, 29-30). French, in [0063], discloses that the catalytic metal (electroless plate metal) will adsorb only selected portions of the ITO and not on the substrate material (portions

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other than the exposed treated portions of ITO layer) (claim 5). French, in [0065], discloses that the substrate can include glass (claim 10). French, in [0045], discloses that the resist is lithographically patterned (claim 16). French, in [0025], [0026], [0062], [0063], [0069], [0070], discloses that after the formation of the resist pattern, the resist pattern along with the exposed portions of the underlying ITO layer is dry etching (thereby inherently reducing any particles or residual polymers) in a plasma prior to being exposed to electroless plating (colloidal suspension of catalytic metal) (claims 17-18). French, in [0072], [0074], and [0075], discloses that the ITO layer is plated i.e., dipped in a colloidal solution bath (claim 19). French, in [0032], [0033], discloses that the masking layer (photoresist layer) is removed after the plating operation (formation of the metal layer) (claim 26). French, in [0068], discloses that the resist pattern undergoes a standard development process (i.e., standard developer is a basic solution) (claim 27). French, in [0031], [0032], discloses that the photoresist can be removed prior to plating (exposing to ions in the ionic solution, plating solution) (claim 28).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 7-9, 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2003/0034525 (French et al., hereinafter referred to as French) in view of European Patent Application No. 0518422 (De Bakker et al., hereinafter referred to as De Bakker).

French is discussed in paragraph no. 4.

The difference between the claims and French is that French does not disclose that the catalytic metal particles (metal particles in the plating solution) are polymer-stabilized (claim 7), and that the stabilizer is selected from the group recited in claim 8, and that the stabilized using the solution claimed in claim 9. French does not disclose that the selected exposed portions of the substrate (exposed portions that are plated) are rinsed in de-ionized water (claim 20).

De Bakker, in col 2, lines 12-22, and lines 41-58, and in col 3, lines 1-15, discloses that the electroless solution (colloidal ionic solution) used for plating the ITO layered substrate selectively (i.e., in selected portions of the ITO only) contains a stabilizer such as polyvinyl alcohol or polyvinyl pyrrolidone, and that the catalytic metal used for plating are stabilized in a solution containing Sn^{4+} ions. De Bakker, in col 4, lines 58, in col 5, lines 1-2, discloses that following the plating, the plated ITO (selectively) layered substrate is rinsed in de-ionized water.

Therefore, it would be obvious to a skilled artisan to modify French by employing the stabilizer containing plating solution for plating and rinsing the plated ITO layered substrate with deionized water as suggested by De Bakker because De Bakker, in col 2, lines 11-24, and in col 3, lines 1-16, and in col 4,

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lines 45-58, in col 5, lines 1-1-14, discloses that using a stabilizer during plating, followed by rinsing in the claimed manner results in the prevention of flocculation of the metal particles to be coated, and prevents the disappearance of catalytic activity and also avoids the adherence of the metal particles to be coated/or plated from adhering on the glass substrate directly and at the same time meets the tape test requirement for adhesion.

7. Claims 21-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2003/0034525 (French et al., hereinafter referred to as French) in view of European Patent Application No. 0518422 (De Bakker et al., hereinafter referred to as De Bakker) as applied to claims 7-9, 20 above, and further in view of U. S. Patent No. 5,395,678 (Matsushima et al., hereinafter referred to as Matsushima).

French in view of De Bakker is discussed in paragraph no. 6.

French, in [0072], [0074], and [0075], discloses that the ITO layer is plated in the exposed portions only, not the resist masked portions i.e., dipped in a colloidal solution bath (plating solution has ions) (claim 25).

The difference between the claims and French in view of De Bakker is that French in view of De Bakker does not disclose that the rinsed portions are dried as claimed in claim 21. French in view of De Bakker does not disclose that the drying step includes placing the rinsed layered substrate (substrate with an ITO layer that is selectively plated at selected exposed portions of the ITO) in an oven (claim 22). French in view of De Bakker does not disclose that the drying step includes blowing a stream of gas over the layered substrate (claim 23). French

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in view of De Bakker does not disclose that the drying step includes both placing the layered substrate in the oven and blowing it with a stream of gas (claim 24).

Matsushima, in col 13, lines 41-50, discloses that that plated ITO layered substrate was rinsed in water, and then dried by blowing air (a stream of gas) and baking at 200°C (placing in the oven).

Therefore, it would be obvious to a skilled artisan to modify French in view of De Bakker by drying the rinsed substrate in the method taught by Matsushima because, the drying process removes any residual of water on the plated film, and Matsushima, in col 13, lines 50-54, discloses that when using the claimed drying method the plated film did not strip from the surface of ITO film during an adhesive tape strip test.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about

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the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

/Daborah Chacko-Davis/
Examiner, Art Unit 1795

June 14, 2008.